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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,617	09/29/2000	Robert Dunstan	042390.P9731	9612

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EXAMINER

DU, THUAN N

ART UNIT PAPER NUMBER

2116

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/675,617

Applicant(s)

DUNSTAN ET AL.

Examiner

Thuan N. Du

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 12-18, 21, 22 and 24-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 12-18, 21, 22 and 24-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. It is hereby acknowledged that the following papers have been received and placed of record in the file: Amendment (dated 6/26/06).
2. Claims 4-11, 19, 20 and 23 have been canceled. Claims 24-33 have been added. Claims 1-3, 12-18, 21, 22 and 24-33 are presented for examination.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

4. Claim 1 is objected to because of the following informalities: the imitation "an subsystem" recited in line 1 should be -- a subsystem --. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-3, 12-18, 21, 22 and 24-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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7. Claims 1, 12, 15, 18 and 21 recite the limitation "a second message addressed to the subsystem based on information including the first message." The phrase is interpreted as the second message including the first message. The specification describes an acknowledge signal (second message) is sent to the subsystem based on information included in the request (first message). The specification does not describe the acknowledge signal (second message) including the request (first message).

8. Claims 30 and 31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification describes that the system can perform either fully waking up the subsystem, partially waking up the subsystem, resetting the subsystem, retrieving the previous state of the subsystem, or restoring the previous state of the subsystem at a time. The system cannot perform all of the above mentioned steps at one time.

9. Claims 2, 3, 13, 14, 16, 17, 22, 24-29, 32 and 33 are also rejected for incorporating the above deficiency by dependency.

Claim Rejections - 35 USC § 103

10. Claims 1-3, 12-15, 18, 21, 22 and 24-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gephardt et al. [Gephardt] (U.S. Patent No. 5,640,573) in view of Pearce (U.S. Patent No. 5,819,100) and further in view of Edem et al. [Edem] (U.S. Patent No. 5,440,556).

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11. Regarding claims 1, 3 and 26-29, Gephardt teaches a method for controlling a power state of a subsystem (202) comprising:

receiving from the subsystem a message [col. 3, lines 50-52, 63-64; col. 4, lines 64-65; col. 6, lines 12-15]; and

setting the power state of the subsystem based on the information included in the message [col. 6, lines 15-28].

Gephardt uses system management interrupt signal SMI to control the power state of the subsystem [col. 4, lines 53-60; col. 5, lines 14-15 (table I)]. Gephardt does not explicitly disclose that the power state of the subsystem is controlled exclusive of a main operating system.

Pearce teaches a method for controlling a power state of a subsystem independently from a main operating system [col. 3, lines 57-58; col. 4, lines 9-11] by activating system management interrupt signal SMI to start the operation of a system management mode [col. 5, lines 1-3; col. 6, lines 1-8].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Gephardt and Pearce because they both teach a system for controlling a power state of a subsystem using system management interrupt signal SMI. Moreover, activating system management interrupt signal SMI to start the operation of a system management mode to control the power state of a subsystem without involvement of a main operating system taught by Pearce would reduce an overhead of the main operating system.

Both Gephardt and Pearce do not explicitly teach a second message is sent to the subsystem based on information included in the message.

Edem teaches a method for controlling subsystem power consumption comprising:

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receiving from the subsystem a first message [col. 15, lines 43-45]; and
sending a second message (acknowledgement) addressed to the subsystem based on
information included in the first message [col. 15, lines 46-48].

It would have been obvious to one of ordinary skill in the art at the time of the invention
to modify the teachings of Gephardt-Pearce to include an acknowledge signal taught by Edem.
The modification would increase the reliability of the system.

12. Regarding claim 2, Gephardt teaches that the message is selected from the group
consisting of a full wakeup, a limited wakeup, a resume previous state, and a status request [col.
6, lines 15-35].

13. Regarding claims 24 and 25, Gephardt teaches that the message sent from a controller
includes a shutdown message [col. 6, lines 25-28].

14. Regarding claims 15 and 21, Gephardt teaches a system comprising:

a power state controller (208) having an input port, an output port, and a communications
channel (210) [Fig. 1];

energy monitor signal coupled to the power state controller input port [col. 4, lines 41-
43];

an individually addressable subsystem (202) coupled to the power state controller input
port and the power state controller communications channel [Fig. 1], wherein the power state
controller receives a message from the subsystem [col. 3, lines 50-52, 63-64; col. 4, lines 64-65;
col. 6, lines 12-15].

Gephardt uses system management interrupt signal SMI to control the power state of the subsystem [col. 4, lines 53-60; col. 5, lines 14-15 (table I)]. Gephardt does not explicitly disclose that the power state of the subsystem is controlled exclusive of a main operating system.

Pearce teaches a method for controlling a power state of a subsystem independently from a main operating system [col. 3, lines 57-58; col. 4, lines 9-11] by activating system management interrupt signal SMI to start the operation of a system management mode [col. 5, lines 1-3; col. 6, lines 1-8]. Furthermore, Pearce teaches that the power management is controlled by a user [col. 5, line 5], therefore, inherently, Pearce must include a user input for the user to initiate a control signal.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Gephardt and Pearce because they both teach a system for controlling a power state of a subsystem using system management interrupt signal SMI. Moreover, activating system management interrupt signal SMI to start the operation of a system management mode to control the power state of a subsystem without involvement of a main operating system taught by Pearce would reduce an overhead of the main operating system.

Both Gephardt and Pearce do not explicitly teach a second message is sent to the subsystem based on information included in the message.

Edem teaches a method for controlling subsystem power consumption comprising:
receiving from the subsystem a first message [col. 15, lines 43-45]; and
sending a second message (acknowledgement) addressed to the subsystem based on information included in the first message [col. 15, lines 46-48].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Gephardt-Pearce to include an acknowledge signal taught by Edem. The modification would increase the reliability of the system.

15. Regarding claim 22, Gephardt, Pearce and Edem do not explicitly disclose that the communications link coupling the power controller to the individually addressable subsystem comprising a link having lower bandwidth than a system bus in the computer system. One of ordinary skill in the art would have readily recognized that it would have been obvious at the time of the invention to use the communications link coupling the power state controller to the subsystem comprising a link having lower bandwidth than a system bus in the computer system. One of ordinary skill in the art would have readily recognized that the amount of data exchanged on the link between the power state controller and the subsystem is far less than the amount of data exchanged on the main system bus. Therefore, using a low bandwidth communications link would reduce cost and power consumption of the computer system, which would be desirable.

16. Regarding claims 12-14, 18, 30 and 31, they do not teach or further define over the limitations recited in the claims 1-3. Therefore, claims 12-14, 18, 30 and 31 are also rejected as being unpatentable over Gephardt, Pearce and Edem for the same reasons set forth in claims 1-3.

17. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gephardt et al. [Gephardt] (U.S. Patent No. 5,640,573), Pearce (U.S. Patent No. 5,819,100), Edem et al. [Edem] (U.S. Patent No. 5,440,556) and further in view of Goff et al. [Goff] (U.S. Patent No. 6,105,142).

18. Regarding claim 16, Gephardt-Pearce-Edem does not specifically teach the user input is a switch to turn the system on and off.

Goff teaches a key on a keyboard may emulate a power switch (power button).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Gephardt-Pearce-Edem and Goff because they both teach system for controlling power in a computer system. Goff's teaching of turning the system on and off directly from a keyboard would increase the convenience of the system by allowing a key on Gephardt-Pearce-Edem's keyboard may emulate a power switch. Therefore, user input signal sent to the power controller would include power on/off signal.

19. Claims 17, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gephardt et al. [Gephardt] (U.S. Patent No. 5,640,573) in view of Pearce (U.S. Patent No. 5,819,100) and further in view of Arai et al. [Arai] (U.S. Patent No. 5,978,922).

20. Regarding claims 17, 32 and 33, Gephardt-Pearce-Edem does not explicitly teach the system including an energy monitor signal coupled to the power state controller for indicating the remaining battery capacity.

Arai teaches a power management system comprising an energy monitor signal coupled to a power controller (controller 8) input port [signal inputted to the controller 8 to indicate the remaining power in a power source] for indicating the remaining battery capacity [col. 5, lines 33-35].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Gephardt-Pearce-Edem and Arai because it would increase the flexibility of the system by allowing the power control unit of Gephardt-Pearce-

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Edem can also monitor power level of power source to ensure the power source has sufficient power for providing to the subsystem.

Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuan N. Du whose telephone number is (571) 272-3673. The examiner can normally be reached on Monday-Friday: 9:30 am - 6:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H. Browne can be reached on (571) 272-3670.

Central TC telephone number is (571) 272-2100.

The fax number for the organization is (571) 273-8300.

22. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

Thuan N. Du
September 6, 2006


THUAN N. DU
PRIMARY EXAMINER